

**Notice of Allowability**

Application No.

10/698,478

Examiner

Kevin Quarterman

Applicant(s)

JEONG, HOON

Art Unit

2879

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 23 August 2005.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment and remarks received 23 August 2005 have been entered and overcome the objections to the title and abstract.

### *Allowable Subject Matter*

2. Claims 1-25 are allowed.
3. The following is an examiner's statement of reasons for allowance: Claims 1-25 were previously allowed in the *Ex Parte Quayle* action mailed 24 June 2005. The reasons are repeated in this office action.
4. Regarding independent claim 1, the prior art of record neither shows or suggests a cathode ray tube comprising, in addition to other limitations of the claim, a shadow mask satisfying a condition of  $0.9 \leq ZmD/(ZmX + ZmY) \leq 1.1$ , in which an arbitrary point on a diagonal axis of the shadow mask is supposed to be Dr, points on a long axis and a short axis meeting with perpendiculars drawn to the long axis and the short axis from the point Dr are respectively supposed to be Xr and Yr, and intervals between the respective points Xr, Yr, and Dr and the shadow mask in a tube axis direction are respectively supposed to be ZmX, ZmY, and ZmD. Due to their dependency upon independent claim 1, claims 2-13 are also allowable.
5. Regarding independent claim 14, the prior art of record neither shows or suggests a cathode ray tube comprising, in addition to other limitations of the claim, a dimension ratio of a panel being 4:3, a size of an effective surface of the panel on which a phosphor screen is deposited being 650mm~720mm, and a shadow mask satisfying a

Art Unit: 2879

condition of  $0.9 \leq ZmD/(ZmX + ZmY) \leq 1.1$ , in which an arbitrary point on a diagonal axis of the shadow mask is supposed to be  $Dr$ , points on a long axis and a short axis meeting with perpendiculars drawn to the long axis and the short axis from the point  $Dr$  are respectively supposed to be  $Xr$  and  $Yr$ , and intervals between the respective points  $Xr$ ,  $Yr$ , and  $Dr$  and the shadow mask in a tube axis direction are respectively supposed to be  $ZmX$ ,  $ZmY$ , and  $ZmD$ . Due to their dependency upon independent claim 14, claims 15-23 are also allowable.

6. Regarding independent claim 24, the prior art of record neither shows or suggests a cathode ray tube comprising, in addition to other limitations of the claim, a shadow mask, wherein if a functional formula of a respective line connecting a maximum and a minimum value of a respective radii of curvature in directions of a long axis, a short axis and a diagonal axis of the shadow mask from a center towards a periphery is supposed to be  $y = Ax + B$ , the shadow mask satisfies a condition of  $-5.0 \leq A \leq -1.0$ , in which  $y$  denotes a radius of curvature,  $x$  denotes a distance from the center of the shadow mask to a position on the long axis, the short axis or the diagonal axis,  $A$  denotes a gradient of the lines, and  $B$  denotes a constant. Due to its dependency upon independent claim 24, claim 25 is also allowable.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Contact Information**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
15 September 2005

  
Joseph Williams  
Primary Examiner  
Art Unit 2879